

CLAIMS

What is claimed is:

1. An electric cooking apparatus, comprising:
heating units, each heating unit having a heating element and electrodes connected to the heating element;
a switching unit to switch power applied to the electrodes;
a current detecting unit to detect values of current output from the heating units; and
a control unit to operate a predetermined number of heating units, which are determined according to the values of current detected from the current detecting unit after operating the heating units.
2. The electric cooking apparatus of claim 1, further comprising a thermally conductive cooking plate wherein the heating units are printed in independent cells under the thermally conductive cooking plate which allows a cooking container to be located thereon.
3. The electric cooking apparatus of claim 2, further comprises a heat-insulating material located under the heating units.
4. The electric cooking apparatus of claim 2, wherein the heating units are printed under a total area of the cooking plate.
5. The electric cooking apparatus claim 1, wherein:
the control unit calculates rates of change of current in the heating units according to the values of current detected from the current detecting unit.
6. The electric cooking apparatus of claim 5, further comprising a microprocessor to operate the predetermined number of heating units determined according to the calculated rates of change of current.

7. The electric cooking apparatus of claim 6, wherein the microprocessor determines the heating units having output rates of change of current equal to or higher than a preset rate of change of current to determine whether a cooking container is located on the electric cooking apparatus, and operates the predetermined number of heating units.

8. A method of controlling an electric cooking apparatus, an electric cooking apparatus having heating units, each heating unit having a heating element and electrodes connected to the heating element, and a switching unit to switch power to be applied to the electrodes, the method comprising:

detecting values of current output from the heating units after operating the heating units; and

operating the predetermined number of heating units determined according to the detected values of current.

9. The method of claim 7, further comprising:

calculating rates of change of current of the heating units according to the detected values of current; and

detecting whether a cooking container to be heated by the heating units is located in the electric cooking apparatus according to the calculated rates of change of current.

10. The method of claim 8, wherein:

determining the heating units having output rates of change of current equal to or higher than a preset rate of change of current ; and

operating the predetermined number of heating units.

11. An electric cooking apparatus, comprising:

heating units, each heating unit having a heating element and electrodes connected to the heating element;

a switching unit to switch power to be supplied to the electrodes; and

a control unit to separately operate the heating units by operating the switching unit.

12. The electric cooking apparatus of in claim 10, wherein a heat-insulating material is located under the heating units.

13. The electric cooking apparatus of in claim 10, further comprising a thermally conductive cooking plate wherein the heating units are printed in independent cells under the thermally conductive cooking plate which allows a cooking container to be located thereon.

14. The electric cooking apparatus of claim 12, wherein the heating units are printed under a total area of the cooking plate.

15. The electric cooking apparatus of claim 2, wherein the heating units provide heat to a lower part of the cooking plate and are located under the cooking plate at predetermined intervals.

16. The electric cooking apparatus of claim 3, further comprising a support plate located under the heat-insulating material, wherein a support frame is located around the support plate to support the control unit which operates the heating units.

17. The electric cooking apparatus of claim 2, wherein each of the heating units comprising a sheet-heating element formed by printing a heat-generated paint under the cooking place in the independent cells.

18. The electronic cooking apparatus of claim 17, wherein the electrodes are connected to an end of the sheet-heating element, respectively to supply power thereto.

19. The electric cooking apparatus of claim 1, further comprising an electrical connection member, wherein each of the heating units is electrically connected to the control unit through the electrical connection member.

20. The electric cooking apparatus of claim 1, further comprising a key input unit having a plurality of control buttons is electrically connected to an input side of the control unit to receive cooking commands from a user.

21. The electric cooking apparatus of claim 1, wherein the control unit operates the heating units separately.

22. The electric cooking apparatus of claim 1, wherein the control unit operates the heating units in groups by supplying and cutting off power to the electrodes.

23. The electric cooking apparatus of claim 1, wherein each of the heating units detects a location and a size of a cooking container.

24. The electric cooking apparatus of claim 1, wherein the heating units are connected in parallel to each other and are electrically connected to an output side of the control unit.

25. The electric cooking apparatus of claim 2, wherein the thermally conductive cooking plate is made of a ceramic glass material.

26. The electric cooking apparatus of claim 2, wherein when the cooking container is moved to another location, the control unit detects the location and operates the predetermined number of heating units corresponding to the detected location.